

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended) A Raman amplification method for pumping WDM signal light within an optical fiber, that uses pumping lights having two or more different pumping wavelengths, comprising steps of:

calculating a combination of optical power at said two or more different pumping wavelengths for said pumping lights in backward pumping so as to provide a substantially flat Raman gain within a predetermined signal wavelength band;

carrying out bidirectional pumping with at least part of said pumping lights wherein said bidirectional pumping includes said backward pumping, said carrying out step being performed after said calculating step; and

changing a respective distribution of pumping power to wavelength of said bidirectional pumping, wherein

said changing step is performed after said carrying out step, and

shorter wavelengths of said pumping lights are used for forward pumping so as to flatten a wavelength dependence of noise figure in the WDM signal band.

Claim 2 (Original) The Raman amplification method according to Claim 1, wherein:
a total optical power of said bidirectional pumping is not changed from the combination of optical power of said backward pumping calculated in said calculating step.

Claim 3 (Original) The Raman amplification method according to Claim 2, wherein:
all of said pumping lights are used for backward pumping and part of said pumping lights are used for forward pumping.

Claim 4 (Canceled).

Claim 5 (Currently Amended) The Raman amplification method according to Claim ~~[[4]]~~1, wherein:

the combination of optical power of backward pumping is larger than that of forward pumping.

Claim 6 (Previously Presented) The Raman amplification method according to Claim 5, further comprising:

performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 7 (Currently Amended) The Raman amplification method according to Claim ~~[[4]]~~1, further comprising:

performing forward pumping with at least one multi-mode pumping laser having ~~an~~ a laser diode with a grating structure.

Claim 8 (Original) The Raman amplification method according to Claim 3, wherein:
the combination of optical power of backward pumping is larger than that of forward pumping.

Claim 9 (Previously Presented) The Raman amplification method according to Claim 8, further comprising:

performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 10 (Previously Presented) The Raman amplification method according to Claim 3, further comprising:

performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 11 (Original) The Raman amplification method according to Claim 2, wherein: shorter wavelengths of said pumping lights are used for forward pumping.

Claim 12 (Original) The Raman amplification method according to Claim 11, wherein:
the combination of optical power of backward pumping is larger than that of forward pumping.

Claim 13 (Previously Presented) The Raman amplification method according to Claim 12, further comprising:
performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 14 (Previously Presented) The Raman amplification according to Claim 11, further comprising:
performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 15 (Original) The Raman amplification method according to Claim 2, wherein:
the combination of optical power of backward pumping is larger than that of forward pumping.

Claim 16 (Previously Presented) The Raman amplification method according to Claim 15, further comprising:
performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 17 (Previously Presented) The Raman amplification method according to Claim 2, further comprising:
performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 18 (Original) The Raman amplification method according to Claim 1, wherein:
all of said pumping lights are used for backward pumping and part of said pumping lights are used for forward pumping.

Claim 19 (Original) The Raman amplification method according to Claim 18, wherein:
shorter wavelengths of said pumping lights are used for forward pumping.

Claim 20 (Original) The Raman amplification method according to Claim 19, wherein:

the combination of optical power of backward pumping is larger than that of forward pumping.

Claim 21 (Previously Presented) The Raman amplification method according to Claim 20, further comprising:

performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 22 (Previously Presented) The Raman amplification method according to Claim 19, further comprising:

performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 23 (Original) The Raman amplification method according to Claim 18, wherein:

the combination of optical power of backward pumping is larger than that of forward pumping.

Claim 24 (Previously Presented) The Raman amplification method according to Claim 23, further comprising:

performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 25 (Previously Presented) The Raman amplification method according to Claim 18, further comprising:

performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 26 (Original) The Raman amplification method according Claim 1, wherein: shorter wavelengths of said pumping lights are used for forward pumping.

Claim 27 (Original) The Raman amplification method according to Claim 26, wherein:
the combination of optical power of backward pumping is larger than that of forward pumping.

Claim 28 (Previously Presented) The Raman amplification method according to Claim 27, further comprising:
performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 29 (Previously Presented) The Raman amplification method according to Claim 26, further comprising:
performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 30 (Original) The Raman amplification method according to Claim 1, wherein: the combination of optical power of backward pumping is larger than that of forward pumping.

Claim 31 (Previously Presented) The Raman amplification method according to Claim 30, further comprising:
performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 32 (Previously Presented) The Raman amplification method according to Claim 1, further comprising:
performing forward pumping with at least one multi-mode pumping laser having a laser diode with a grating structure.

Claim 33-37 (Cancelled).